

Abstract

5       An unmanned system for investigating underwater regions  
utilizes an unmanned mothership and a plurality of unmanned  
underwater vehicles (UUVs). The mothership transports the  
10       UUVs to and from the vicinity of an underwater region,  
releases the UUVs into the water, and facilitates recovery of  
the UUVs from the water. Each UUV can traverse an underwater  
region, generate sonar and image data associated with the  
underwater region, and transmit the sonar and image data  
15       through the water for receipt and re-transmission by the  
mothership. A docking system mounted partially onboard the  
mothership and partially onboard each UUV couples each UUV to  
the mothership and selectively releases each UUV into the  
underwater region. A guidance system mounted partially  
20       onboard the mothership and partially onboard each UUV guides  
each UUV back to the docking system from positions in the  
water. The mothership and UUVs can also be equipped with a  
non-contact electrical energy transfer system so that each  
UUV can return to the mothership and re-charge onboard  
batteries while underwater.